

An abstract graphic design featuring numerous rectangular blocks of varying sizes and orientations. The blocks are colored in shades of yellow and orange, with some having dark outlines. They are arranged in a way that creates a sense of depth and three-dimensionality, floating against a solid blue background. The blocks are scattered across the frame, with some appearing to be stacked or overlapping, while others are isolated.

FIR PLYWOOD

America's Busiest
Building Material



The Plywood Age

This is the Fir Plywood Memorial, one of many permanent exhibits to be seen in Oregon's historical Forestry Building, a structure of mammoth logs and timbers built for Portland's 1905 Lewis & Clark Exposition.

Focal point of the memorial, unveiled during the fir plywood industry's Golden Jubilee in June, 1955, is a small sheet of wood with this inscription underneath:

"This is the first plywood panel ever made from Douglas fir. It was produced by the Portland Manufacturing Company for display at the Lewis & Clark International Exposition in Portland in 1905. It marked the birth of an industry which now forms a basic cornerstone in the economy of the Pacific Northwest."

In concept, as well as years, fir plywood is a modern material. And yet, in some respects, it is one of the oldest. Ancient Chi-

nese and Egyptian furniture still exists today which reveals the application of basic plywood principles. The use of veneers in furniture began in the Middle Ages. And more than a hundred years ago, American piano makers first used a kind of plywood, after discovering that cross-laminated boards provided a tighter grip for tuning pegs.

It was the first panel of fir, however, which opened an era. Millions of panels have followed, for that first panel—then only an exposition curiosity—was soon to be recognized as a material of unlimited promise.

Modern methods of manufacturing, industry quality supervision and long-range product research now work together to continually broaden fir plywood's versatility. All this — and the story of plywood's countless uses in this twentieth century plywood age — is told in the following pages.

From these forests come the raw materials for better living

The majestic coast-type Douglas fir is native to the fertile green slopes of our Pacific Northwest mountains. Its range is from Northern California into Canada, from the Sierras and the Cascades to the Pacific.

The Douglas fir's particular growth characteristics make it ideal for plywood. As this mighty tree matures and lower branches drop away, the long straight trunk continues to grow, relatively clear-grained and free of knots — a perfect source for the kind of logs which produce the finest, most useful plywood panels.







These giant logs are "unwound"
to make wood more useful...



In storage pond,
logs are cut to lathe size



Barker prepares the log for peeling

Fir plywood is unique among building materials. In a few short years, it has revolutionized construction methods and set new standards of value.

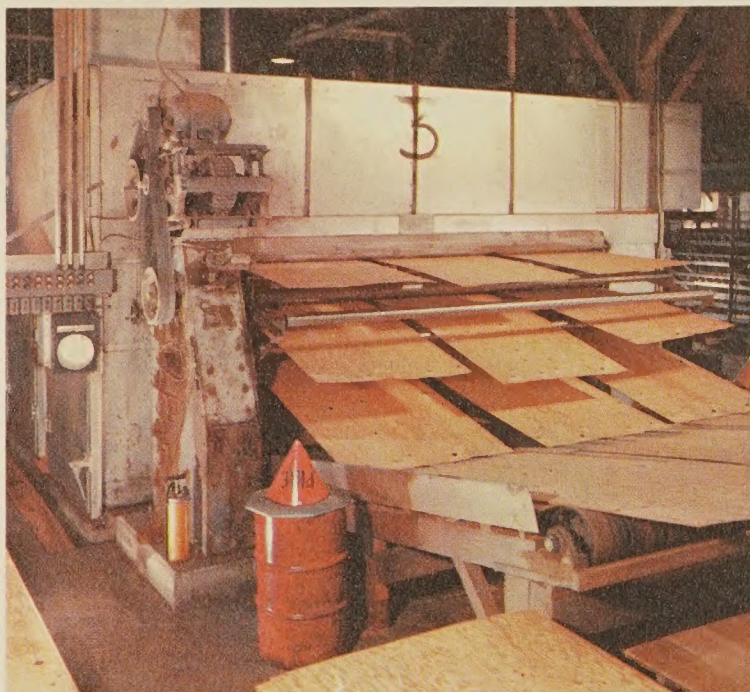
All this has come because of inherent advantages actually "built into" the product during manufacture — a process which never fails to fascinate those who watch it.

Let's follow this, step by step. Only selected logs qualify as plywood "peelers," generally cut from the lower, larger portion of the trunk where the wood is mature and strong, with the clearest grain. It comes down from the woods, goes into the storage pond to be finally cut to lathe size, then moves into the plywood factory and through the de-barker. Now it's a peeler "block"—pick of the forest crop — ready to become fir plywood.

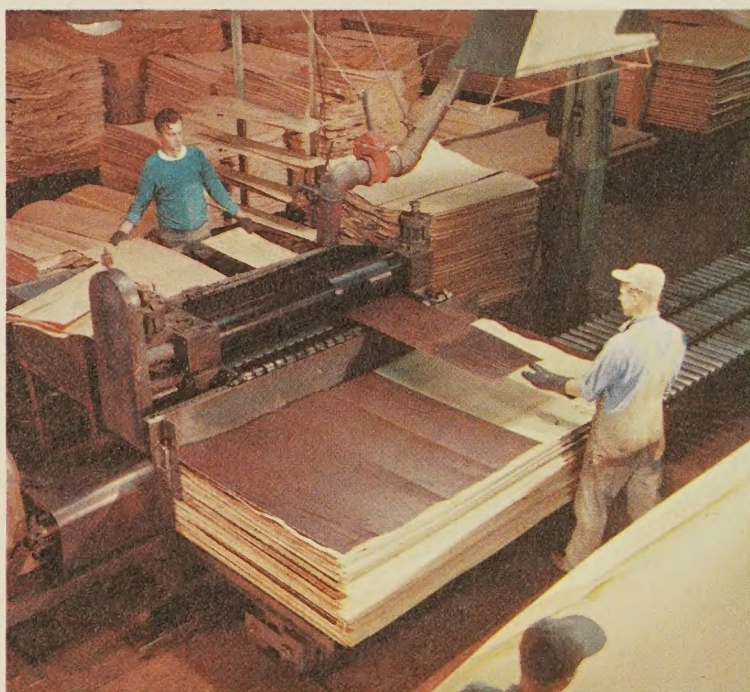
Huge tongs from an overhead crane lift it into the lathe. Metal gripper "chucks" clamp both ends and the block begins to spin, revolving swiftly against a long, keen, razor-sharp blade of steel.



Veneer unwinds as log spins in lathe



Drier controls veneer moisture content



Veneer passes through glue spreader

The blade bites in. A continuous strip of thin wood is peeled off — unwound from the log like paper from a roll.

This is *veneer*, not plywood. The lathe cuts it to an exact and specified thickness — from 1/10 to 3/16 of an inch — and sends it streaming over conveyors to the clipping machine.

Giant knives, controlled by a skilled operator, cut the veneer to proper width for full utilization. It passes on into long mechanical driers, where the moisture content of the wood is scientifically reduced to provide for greatest panel stability and best glue bond.

Next comes patching. Wood is never completely perfect, and here the natural defects are cut out, to be replaced with solid wood, expertly glued into place.

Through the glue-spreader, now, go some of the sheets, where large rollers cover both sides with a uniform thickness of adhesive. These glue-covered pieces are stacked, alternately with dry veneers, to make up panels of the desired thickness.

Always there are an *odd* number of veneers — three, five, seven, sometimes nine.

And always there is a cross-graining of veneers. The grain of each ply is placed at *right angles* to that of adjacent plys.

These two simple factors are the “secret” of fir plywood’s unique properties. A balanced panel of cross-laminated wood veneers is thus created — strong, rigid, split-proof, able to resist great impact.

But several important steps remain before this panel is finished and ready for the countless jobs which builders and industrial users have assigned to it.

After lay-up, panels go into presses where the wood and glue are bonded into one homogeneous material.

Two important variations are made here. If the panel is to be *Exterior-type* fir plywood, for permanent outdoor

or marine use, the glue must be a phenolic-resin, *completely and absolutely waterproof*. And on the press, heat as well as pressure is required. The result is a molecular reaction in the glue which changes it into a permanent, indestructible plastic bond.

If the panel is to be *Interior-type* plywood — for ordinary indoor and construction use — the adhesives are not waterproof, and may be cured with or without heat. Even these glues, however, are highly resistant to moisture. The Interior panel can be produced more economically, yet is completely suitable for permanent out-of-the-weather application.

From the press, panels move through machines which trim them to exact, precision-squared sizes, and sand them down to proper thickness. Then comes inspection, the careful repair of any blemishes in the face plys, and final grading, together with application of DFPA quality grade-trademarks.

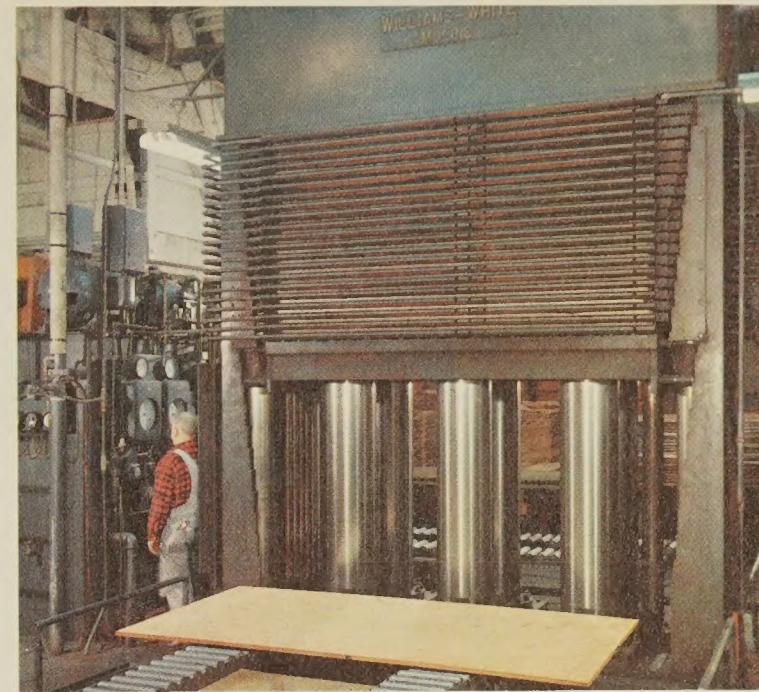
Now the forest giant has passed from tree to log, from log to veneer, from veneer to plywood.

In this new form it is tremendously different than ordinary wood. The few natural disadvantages common to wood have been eliminated or successfully minimized. The natural advantages have been enhanced.

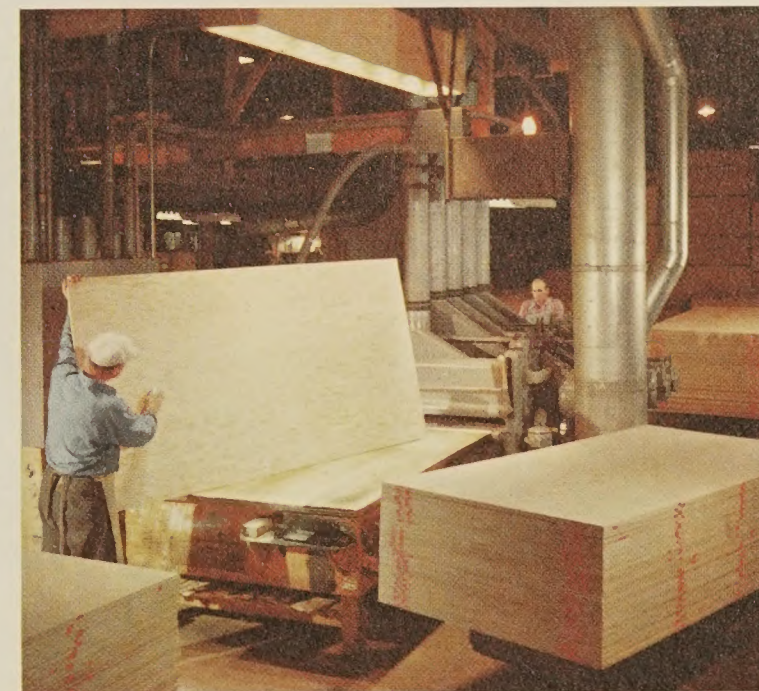
Yet — in no sense has it become “reworked” wood. No change has been made in the basic chemical or molecular structure.

The completed panel of fir plywood remains *real wood*. It has real wood’s natural warmth and texture. It has real wood’s versatility and workability. It has real wood’s age-long tradition. All the forest-endowed strength of long-fibred Douglas fir sinew has been retained... retained and improved.

For it *is* real wood—engineered to do a better building job for you.



Giant presses bond veneers into plywood



Final inspection and grading of panels



This is fir plywood – *America's busiest building material!*

The editors of a leading architectural and building magazine long ago termed fir plywood "the material able to do more building jobs than any other, and do them better".

The reason is clear when you consider Douglas fir plywood's inherent properties.

First, it utilizes one of the strongest and most durable of all woods. But even more important is the *cross-banding* of wood veneers which make up each panel.

The strength of wood lies *along* the grain. When plys are placed with opposing grain direction, this natural strength is applied to *both* length and breadth. The panel is doubly strong, doubly rigid.

On the other hand, wood tends to shrink *across* the grain. In plywood, this is minimized by the force of opposing longitudinal grain. The panel has unusual dimensional stability. Wood is naturally subject to puncture and splitting. But fir plywood, because of cross-laminated panel construction, will resist tremendous impact. It has no plane of cleavage; the cross-grain makes it split-proof.

No other material combines all of these fir plywood advantages!

Here's why fir plywood is so strong

3-PLY



1

A single thickness of wood is strong in only one direction—along the grain. You can prove this yourself with any thin board.

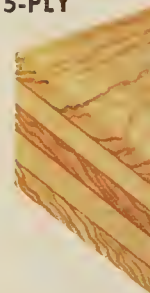
2

But take that same board, cut it into three pieces. You now have three "plys", approximating the veneers used in plywood.

3

Spread glue on one, then place a second ply on top of this. You are duplicating the fundamental steps of plywood manufacture.

5-PLY



4

But—be sure that the grain of this second ply runs at right angles to that of the bottom ply. This is essential for strength.

5

Spread with glue, then put top ply in place. Grain must run opposite to center ply, in the same direction as that of bottom.

6

Let glue set in any simple press. Then test completed panel. You'll see that it is strong and rigid in both directions, not just one.

7-PLY



Fir plywood **2**
is made in **2** distinct types

EXTERIOR-TYPE **EXT-DFPA-A-A**

Exterior-type is made with a glue bond absolutely unaffected by water, weather, or abnormal moisture conditions. Exterior plywood is used for siding of homes and commercial buildings, for boat planking, decking, and a host of other marine applications, for railroad cars, truck bodies, farm structures, outdoor signs—for *all* uses requiring the ultimate in glueline durability.

INTERIOR-TYPE **INTERIOR-A-A-DFPA**

Interior-type, made with non-waterproof (but highly moisture-resistant) glue, is a more economical panel for permanent out-of-the-weather applications. Cabinets, built-ins, paneling, furniture — these are some of its many uses. Structural grades of Interior plywood are recognized as superior for wall and roof sheathing, subflooring, underlayment, and backing.

Both types come in several grades. *Type* is determined by the glue-line used, *grade* is determined by the appearance quality of the face veneers. The variety of fir plywood grades — each tailored to specific end-use requirements — is another important reason this versatile panel material is known as *America's Busiest Building Material*.



DFPA grade-trademarks are your guide to plywood of dependable quality

Before being licensed to use DFPA grade-trademarks, every manufacturer under the Douglas Fir Plywood Association* quality control program must pass rigid testing of current plywood production. Glues used must also pass DFPA tests under actual manufacturing conditions.

Continuously thereafter, mills must pass regular inspection. Several times each month, DFPA quality supervisors inspect each shift — at lathe, drier, glue spreader, press, in the finishing department. Here, the inner plys (unseen in finished panels) are checked most carefully, along with glue and outer plys.

Scientific testing of current production samples in DFPA laboratories is a further

*Douglas Fir Plywood Association, Tacoma 2, Washington, is a non-profit industry organization devoted to product research, promotion, and quality maintenance.

check in determining glue-line quality and durability. Field exposure tests are used to prove laboratory procedures.

Registered DFPA grade-trademarks appear on the back or edge of panels. Remember — only “DFPA” in a grade-trademark indicates plywood which has been manufactured under this rigid industry quality supervision. Manufactured to standards that *exceed* U. S. Commercial Standards. The use of these grade-trademarks may be withdrawn if quality is not maintained.

Look for the symbol “DFPA Tested Quality” when you buy plywood. It is for *your* protection.



Exhaustive laboratory tests stand behind DFPA grade-trademarks. Samples of *Exterior-type* fir plywood are boiled in water 4 hours, oven-baked at 145° for 20 hours, boiled again for 4 hours. Then powerful shear machines put full strain on the glue-line. It must prove stronger than the wood itself.

Sample of *Interior-type* plywood are soaked in water 4 hours, dried for 20 hours. The cycle of wetting and drying is repeated 10 times. To pass the interior test, glue-line must remain sound and firm.

Fir plywood means quality construction

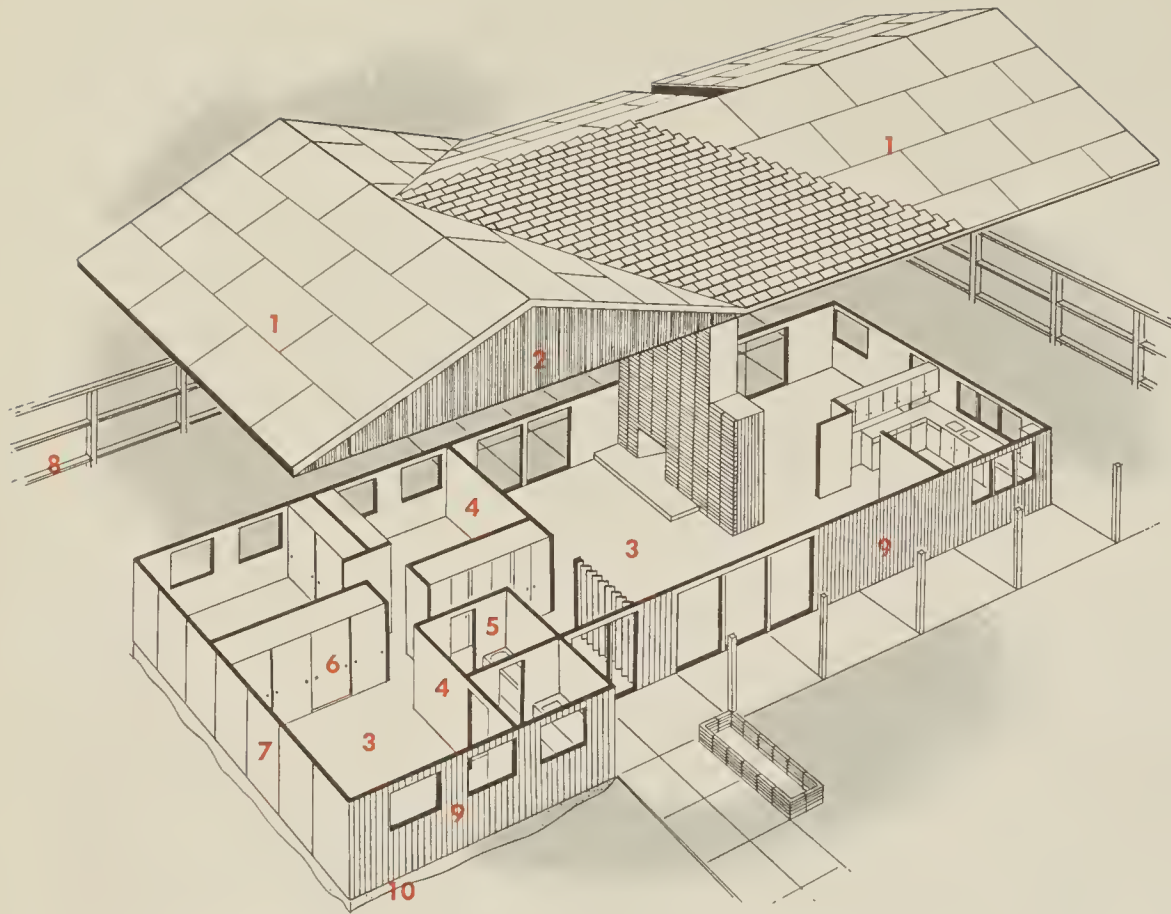
WHEN YOU BUY, BUILD OR REMODEL A HOME

From the hidden structural parts of a home... to the beauty and convenience you see... the unique advantages of fir plywood make it your biggest building value.





Inside or out, you'll find fir plywood right at home!



- 1 Fir plywood roof decking adds strength, rigidity — goes on in half the time.
- 2 Fir plywood gable ends and soffits create a smooth, clean, easy-to-paint surface.
- 3 Fir plywood subfloors and underlayment provide a firm, smooth base for flooring.
- 4 Fir plywood interior walls have the warmth of real wood. Last longer, too!
- 5 Fir plywood gives a smooth, flat, durable base for tile, cork, decorative walls.
- 6 Fir plywood built-ins can be planned to fit your needs. Extra beauty, convenience!
- 7 Fir plywood sheathing means walls that are warm, strong, rigid. Hidden value!
- 8 Fir plywood fences, windbreaks and patio screens provide privacy, added comfort.
- 9 Fir plywood exteriors are smart, modern. Choose the siding style you like. Plywood fits!
- 10 Fir plywood used for concrete forms can be re-used as sheathing. Another saving!



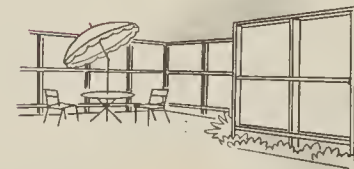
GABLE ENDS



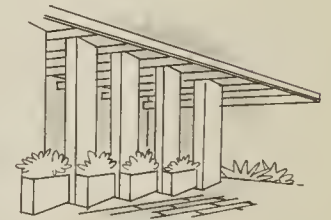
SOFFITS



CARPORTS



FENCES



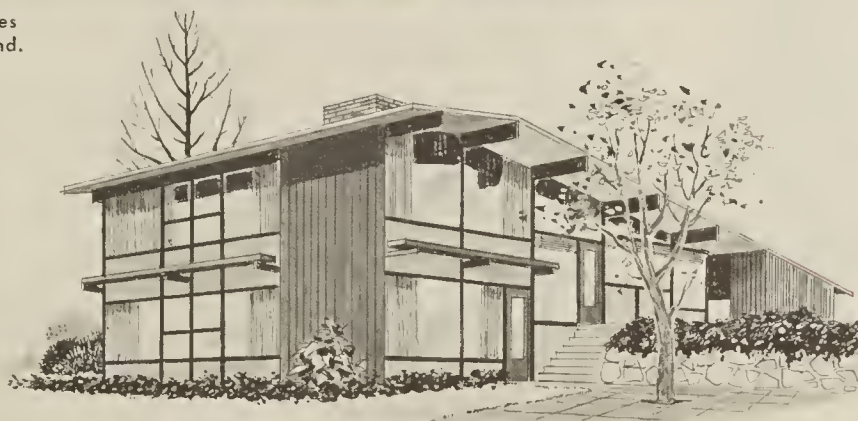
ACCENTS



There's true modern distinction in Texture 1-11 siding



Plywood's clean modern lines fit today's architectural trend.



Here, plywood panels accent, add interest.

Fir plywood exteriors strike a fresh new note for today's living. Plywood fits any treatment, any architectural style. Plywood may be used for wide lapped siding, clean flush design, board and batten — for traditional or contemporary effects. Durable panels of Exterior fir plywood — particularly the new overlaid panels — are first choice for gable ends, soffits, porch and breezeway ceilings. Plywood adds distinction when used in combination with other materials, too. It's versatile, practical, economical. It means *quality* construction. Lasts a housetime!

Built-ins planned with plywood create more usable living space

Fir plywood interiors have the warmth and charm which only *real wood* can give. Built-ins and cabinets, particularly, demand the flexibility and economy of this practical panel material. With fir plywood you can plan storage to fit your own individual space and use needs; there are no restrictive "standard" elements involved. You get the full advantage of custom installation — at a cost far less than you'd expect.



Bedroom wardrobe — and ceiling, too — with the modern beauty of pointed plywood.



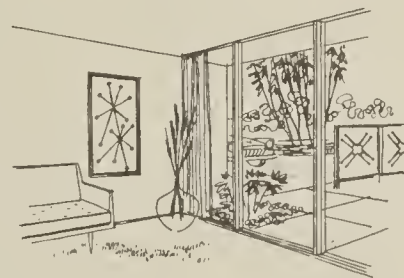
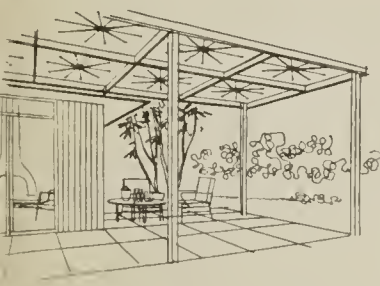
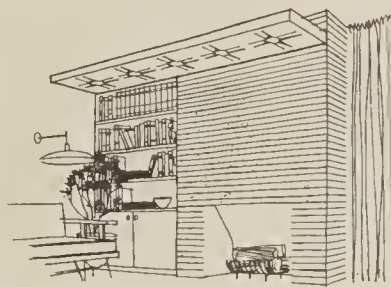
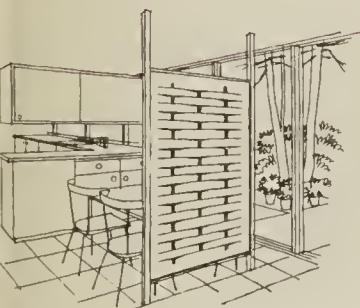
Storage space that adds charm as well as convenience is easy to plan with plywood.



Unique floating storage unit for the dining area — created with versatile fir plywood.



Floating sink and cabinet center made more practical, yet smart with high density overlays.



This entry hall features overlaid fir plywood, with a hord, glassy, natural surface.



In the bathroom, space usually wasted is put to use with this hanging cabinet.



Room divider and wall storage, with Texture 1-11 fir plywood providing adjustable shelves.

Moké
[RHYMES WITH O K]

Moké is an exciting and dramatic way of decorating with fir plywood...an entirely new design principle that combines striking patterns and textures with bold, colorful finishes and lighting effects. The idea is actually a new art form which points the way to limitless applications and design that is effective in building, remodeling, do-it-yourself commercial decorations and an assortment of displays.

The name is based on an obsolete English word *moke*, which means "to weave." The word is suggested by the woven effect created when fir plywood is cut into various patterns in such a way that dowels or other inserts form an attractive third dimensional pattern and unusual lighting effects. For booklet showing how to create and use Moké, write Douglas Fir Plywood Association, Tacoma 2, Washington.

It's easy to remodel or enlarge your home with fir plywood



Is your attic space wasted? A few panels of fir plywood will make a world of difference!



Your basement can look like this when you plan a fir plywood recreation room. Economically, too!



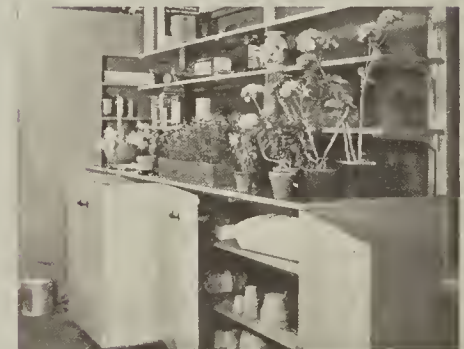
Here, new drama is added to an entry way with curved roof of Exterior-type fir plywood.



Convert your garage to living space, add a car-port. Fir plywood simplifies building.



A fir plywood storage cabana will add zest to outdoor living. Plan the unusual, use plywood!



Gardening? A potting bench is a must—and fir plywood makes it easy to build.

Fir plywood and leisure time go hand in hand. Here's why:

Big, economical panels of fir plywood help you build *anything* faster — be it boat, float, or vacation hide-away. Fir plywood keeps maintenance at a minimum, too; you'll get more real *leisure* from your leisure-time when you plan with practical, economical plywood.



Need a boathouse?
This one's easy to
build with Exterior
fir plywood.



Exterior plywood is
wonderful for docks
and floats, too.



Build a locker like this for all your gear.





Wonderful days afloat — for all the family to enjoy!

Cast off in a plywood boat —and leave care behind!

Hours out on the water are yours to enjoy when your boat is built with Exterior-type fir plywood. There's less upkeep care, because plywood construction eliminates caulking...gives you a boat that's strong, rugged, durable, easy to handle and maintain. Fir plywood won't shatter; it resists tremendous impact. Thousands of boats prove its dependability—and its safety. So, whether you buy or build your own, insist on genuine EXT-DFPA fir plywood!



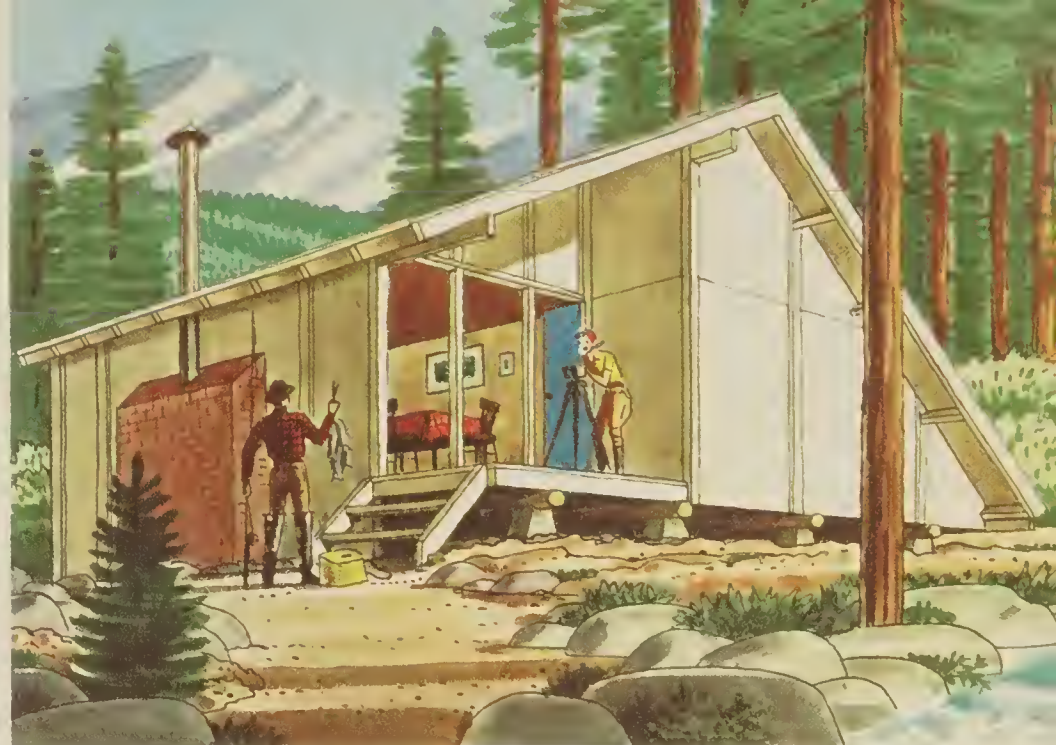
Light-weight plywood gives thrilling speed—takes marathon punishment!

Big panels cover quickly, reduce seams, cut building time and labor.



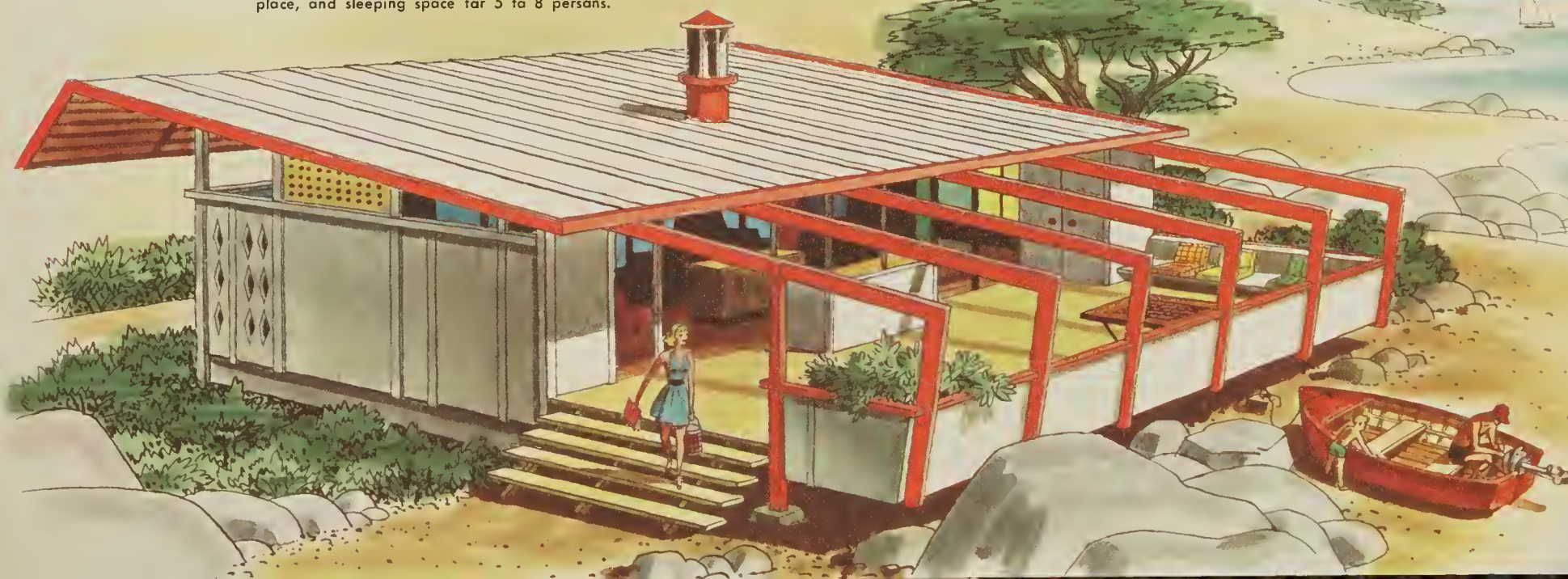
Mountain cabin or beach retreat —easier to build with plywood

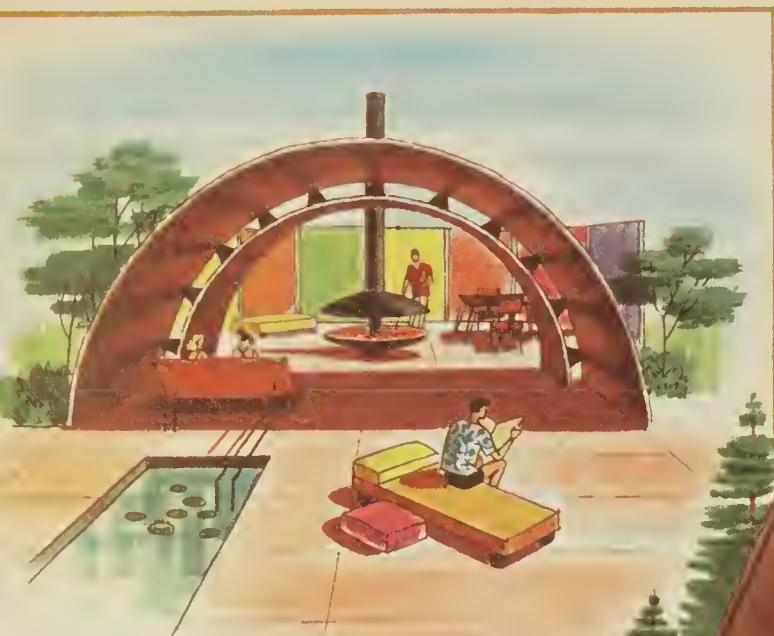
No matter whether your “second home” is just a week-end hideaway or a spot to spend the summer, you’ll want it to have comfort, individuality, economy of upkeep. That makes it a natural for fir plywood! Big panels of plywood mean easier, faster building, even for spare-time carpenters. Plans for leisure homes like these are available. Write Douglas Fir Plywood Association, Tacoma 2, Washington.



Cabin In The Woods. Architect W. D. Widmeyer tucks a bath-bedroom and kitchen-living area into 392 square feet, plus an open deck.

Week-End Beach Cottage, designed by Architect Frederick Liebhardt. Features a central fireplace, and sleeping space for 5 to 8 persons.





Striking and unusual is this fir plywood arched garden shelter—a stimulating idea proposed by Architects Janes & Emmans for leisure time covered areas of the future.

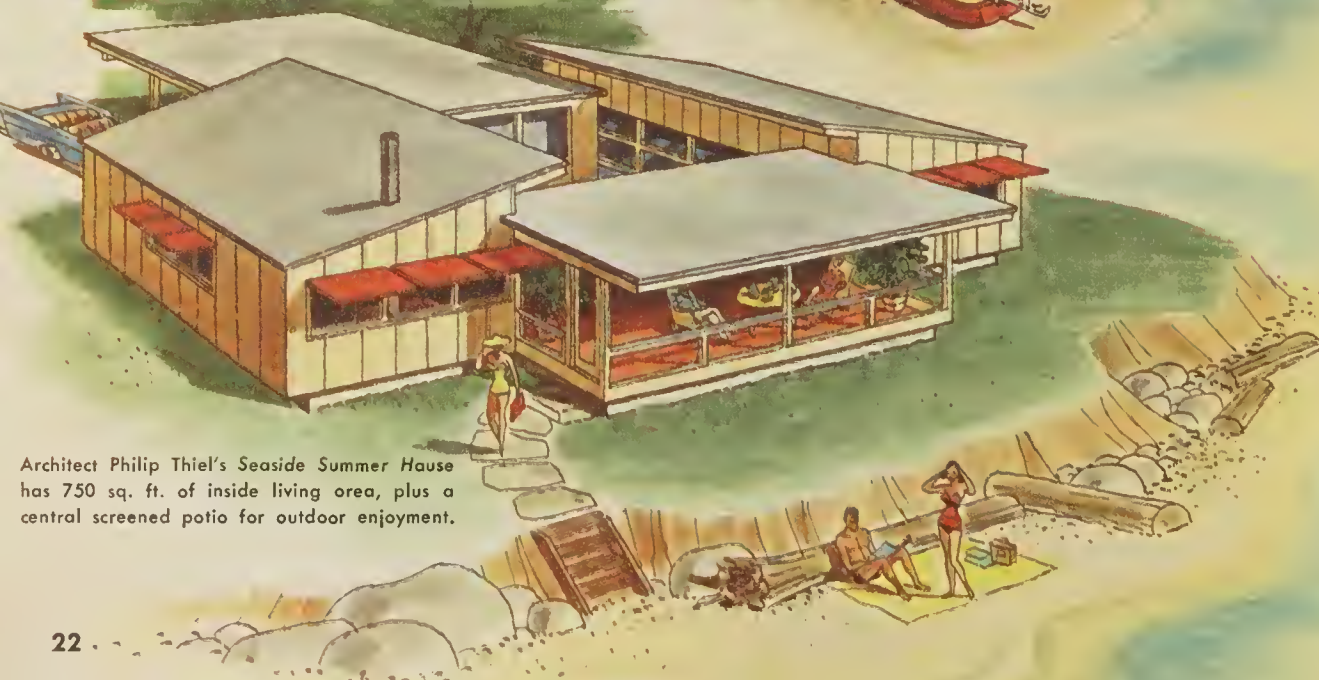
Special purpose plywood panels— for decorative and structural uses

The fundamental versatility of fir plywood is further demonstrated by a widening range of special purpose panels. New surface treatments and textures bring added beauty—added durability—to the real wood advantages which only plywood offers.

Shown on the opposite page: *brushed* plywood, produced by removing softer grain to enhance the decorative surface; *striated* plywood, with fine, regular texture cut into the surface; *embossed* plywood, created by passing panels between patterned rollers; *Plyron* (hardboard-faced plywood), a superior panel for cabinet doors, exterior siding, snagfree table tops.

These—and the other special panels shown—give fir plywood an ever-growing usefulness.

A-Frame Mountain Cabin, for summer sun-days or winter skiing. Sleeps eight on balcony-deck. Owner-designer Dr. David T. Hellyer.



Architect Philip Thiel's Seaside Summer House has 750 sq. ft. of inside living area, plus a central screened patio for outdoor enjoyment.

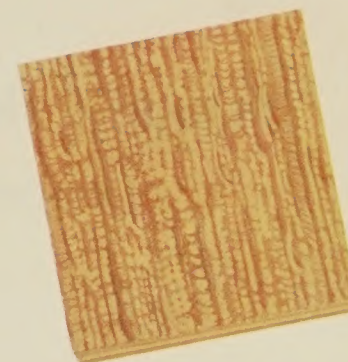


Texture One-Eleven

Panels that combine high-style with the strength, durability and economy of Exterior fir plywood. Used for smart vertical siding, for accents on gable ends, fences, carports. The pattern and texture make it ideal, too, for interior interest walls, displays and fixtures. Shiplapped edges permit pattern continuity with no evidence of joints.



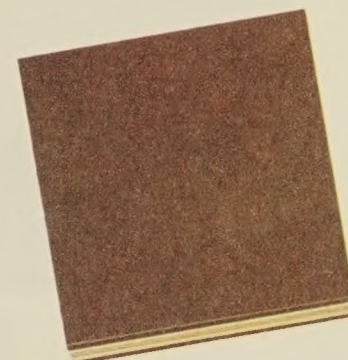
BRUSHED PLYWOOD



EMBOSSSED FIR PLYWOOD



STRIATED FIR PLYWOOD

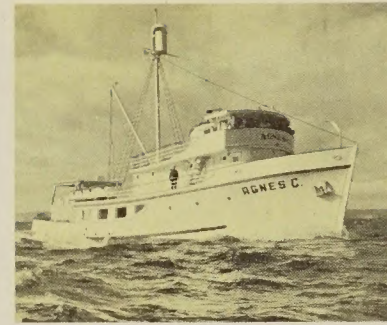


PLYRON; HARDBOARD-FACED PANELS

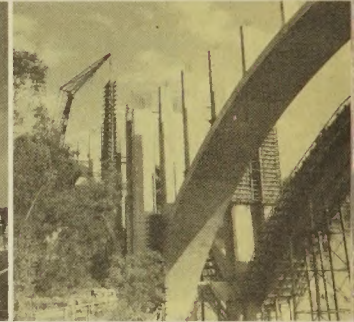
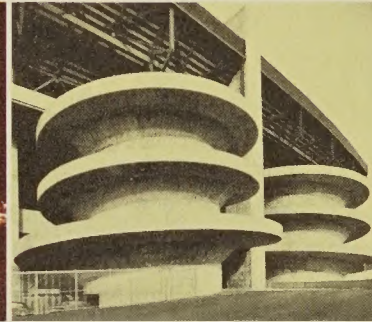
Overlaid Fir Plywood

Panels faced with resin-impregnated overlay. Two types available: one has opaque surface ideal for durable, long-lasting paint finish; the other has hard, wear-resistant surface which can be left unpainted. Overlaid plywood has many uses: siding, signs, bins, lockers, concrete forms, work tables. Combines strength with smooth, grain-free surface.

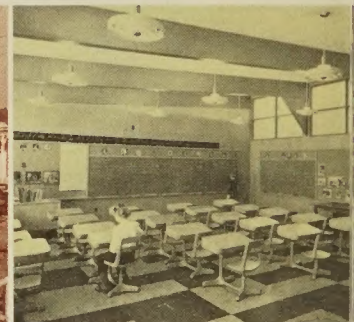
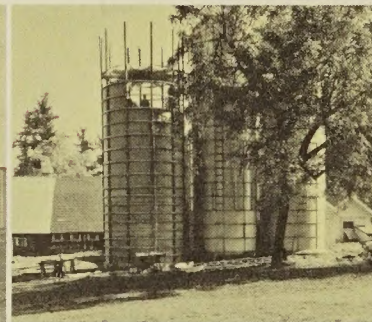
**Versatile fir plywood panels do a
thousand and one jobs in industry
and on the farm**



Everything from sea-going work boats to displays

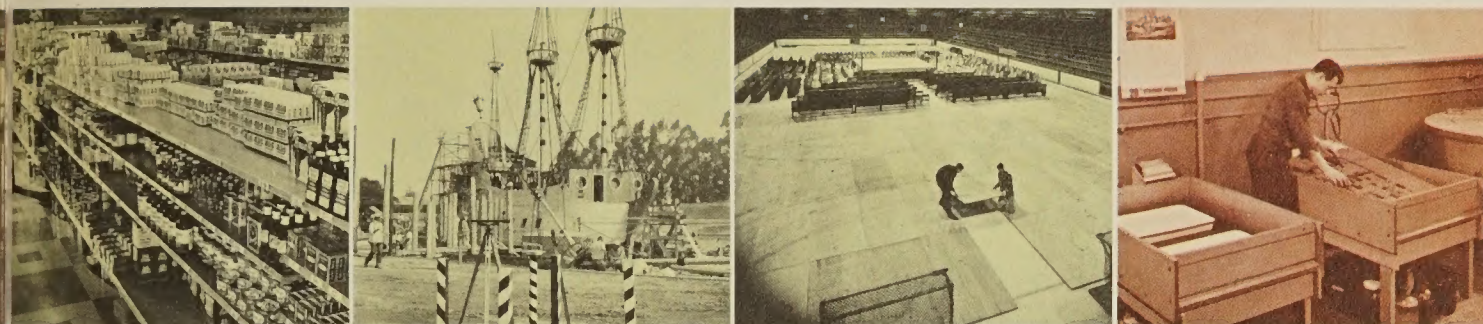


Plywood's strength, durability, make it first choice for railroad cars,



Grain bins, silos, farm structures, desks —

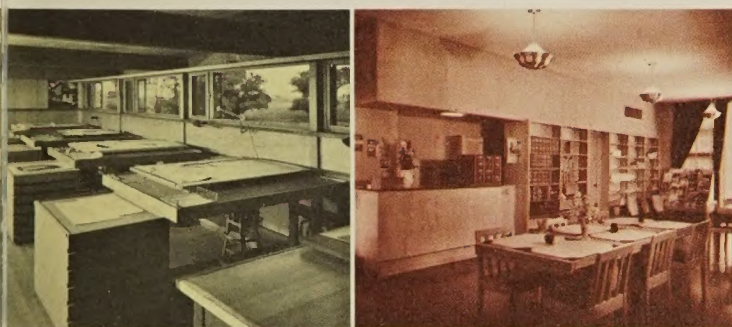




and fixtures are built better, more economically, with practical fir plywood.



truck bodies, concrete forms, warehouses, commercial buildings and schools.



fir plywood builds them all!

FROM WESTERN FORESTS ALSO COMES WESTERN SOFTWOOD PLYWOOD *



*West Coast hemlock, noble fir, Sitka spruce, California redwood, commercial white fir, western larch, Alaska, Port Orford and western red cedar.

While this booklet relates mainly to Douglas fir plywood, West Coast plywood manufacturers also produce panels of other Western softwoods in types and grades comparable to Douglas fir plywood. These plywoods are DFPA-tested and grade-trademarked in accordance with U. S. Commercial Standards. The symbol at the left is the basis of those grade-trademarks.

EVERY
CLASSICS
AT
4808
D475
1957

